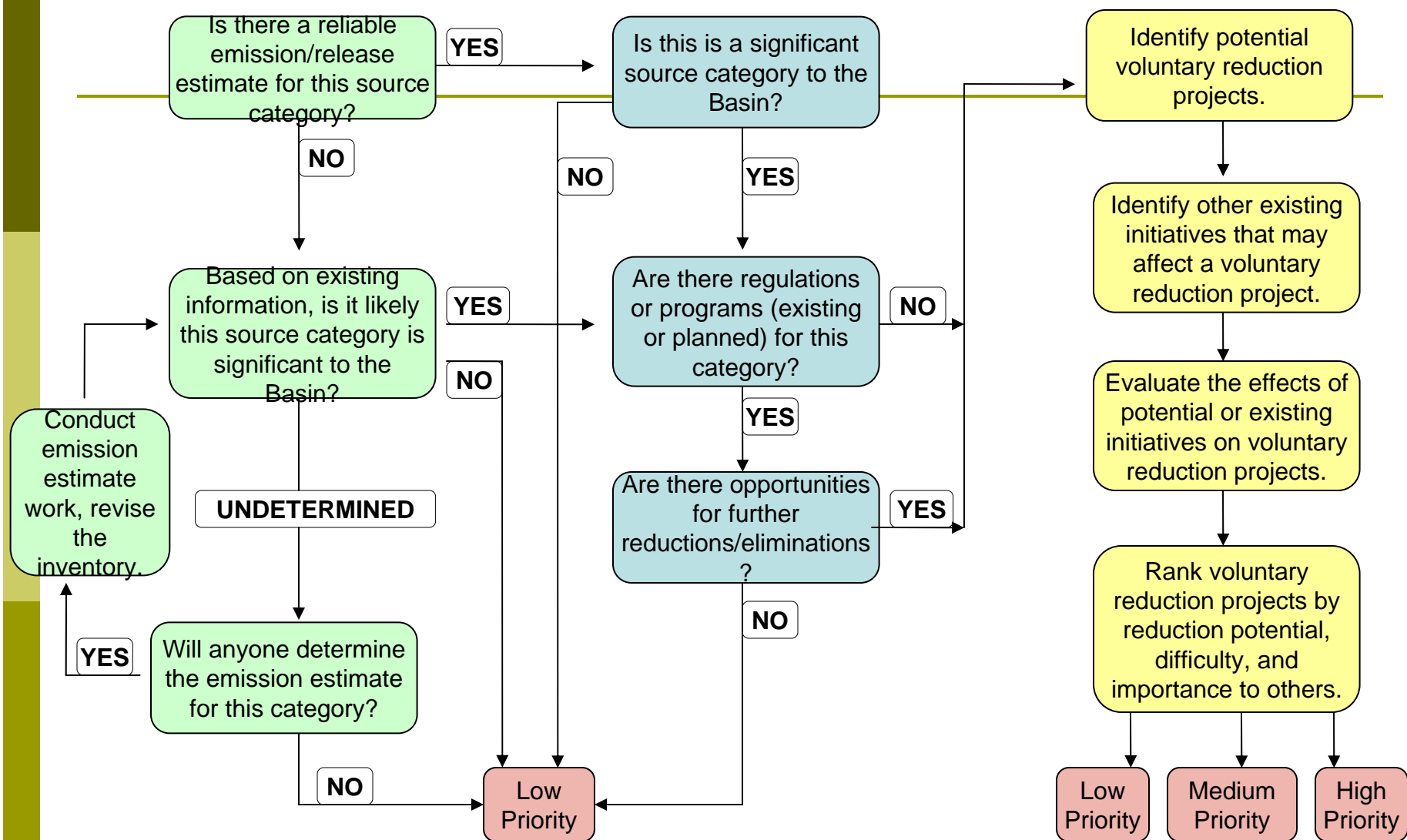


US EPA ARCHIVE DOCUMENT

Dioxin/Furan Workgroup Decision Tree

Dioxin/Furan Workgroup Decision Tree for Prioritizing Sources



Criteria for Inventoried Sources of Interest

- ❑ Reliable emission estimates
- ❑ Likely to be significant in the Basin
- ❑ More than 2% of the total dioxin inventory
 - U.S. – 2000 inventory
 - Canada – 2005 inventory

Sources of Interest-U.S. (2000 Inventory)

- ❑ Backyard barrel burning
- ❑ Medical waste incinerators
- ❑ Municipal waste combustion
- ❑ Coal fired utility boilers
- ❑ Diesel emissions (trucks, rail, locomotive)
- ❑ Hazardous waste cement kilns
- ❑ Primary magnesium production
- ❑ Industrial wood combustion
- ❑ Non-ferrous smelting

Criteria Explanation

- ❑ Using the Decision Tree Process, the GLBTS D/F Workgroup ranked sources of interest as “high, medium, or low priority.”
- ❑ These designations are for the purposes of priority setting within the Workgroup agenda and based on:
 - Environmental data
 - Knowledge of outside programs addressing the sources
 - Ability of the GLBTS to impact these sources
- ❑ These rankings should not be considered an overall judgment of the importance of these sources.

Sources of Interest-Ontario (2005 Inventory)

- ❑ Backyard trash burning
- ❑ Non-ferrous smelters*
- ❑ Federal waste incinerators*
- ❑ Iron and steel*
- ❑ Sewage sludge land application
- ❑ On-road diesel engines
- ❑ Electric power generation

* Not on US list

Backyard Barrel Burning

- Reliable inventory
- Significant source
- Regulations or programs to address
- Workgroup has already identified potential reduction projects
- OUTCOME – high priority and workgroup efforts will continue.

Medical Waste Incinerators and Municipal Waste Combustors

- ❑ Reliable inventory
- ❑ Significant source
- ❑ Regulations or programs to address
- ❑ Opportunities for further reductions (Small incinerators?, MACT Standards, CWS and Ontario regulations have reduced D/F significantly)
- ❑ OUTCOME: Low priority

Municipal Wastewater Treatment Sludge

- ❑ Reliable inventory
- ❑ Significant source
- ❑ Regulations or programs to address
- ❑ Opportunities for further reductions
(Ontario study showed low D/F levels in sewage sludge)
- ❑ EPA made a low risk determination on this issue for D/Fs

- ❑ OUTCOME: Low priority

Coal Fired Utility Boilers

- ▣ Reliable inventory
- ▣ Significant source
- ▣ Regulations or programs to address
- ▣ Opportunities for further reductions
(Ontario commitment to phase out coal-fired power plants by 2014)
- ▣ Suspect that mercury controls may also reduce D/F emissions further

- ▣ OUTCOME: Low priority

Diesel Emissions

- ❑ Reliable inventory
- ❑ Significant source
- ❑ Regulations or programs to address (Sulphur in Diesel Regulations lowered sulphur levels to 15 ppm)
- ❑ Opportunities for further reductions (diesel emission reduction projects)

- ❑ OUTCOME: Low Priority

Hazardous and Non hazardous Waste Cement Kilns

- Reliable inventory
- Significant source
- MACT standard not fully captured in EPA value
- Expect EPA to revise number lower and may fall below 2% of the inventory
- OUTCOME: Low Priority

Primary Magnesium Production

- Reliable inventory
 - Significant source
 - No sources in the GL Basin
-
- OUTCOME: Low Priority

Industrial Wood Combustion

- ❑ Reliable inventory
- ❑ Significant source
- ❑ Regulations or programs to address
- ❑ Opportunities for further reductions
- ❑ Expect EPA to revise number lower and may fall below 2% of the inventory
- ❑ OUTCOME: Low Priority

Non-ferrous Smelters

- ❑ Reliable inventory (incomplete, some reported to NPRI)
- ❑ Significant source
- ❑ Regulations or programs to address
- ❑ Opportunities for further reductions (may combine with Secondary Aluminum Smelting and BaP/HCB workgroup)

- ❑ Outcome: Medium Priority

Federal Waste Incinerators

- Reliable inventory
 - Significant source
 - Regulations or programs to address
 - Opportunities for further reductions (Many have shutdown in Ontario, EC will confirm operating incinerators remaining and can discuss with facilities on CWS)
-
- Outcome: Low priority

Iron and Steel/Ferrous Smelters

- ❑ Reliable inventory
- ❑ Significant source
- ❑ Regulations or programs to address
- ❑ Opportunities for further reductions (Steel mills are reducing D/F through CWS)

- ❑ Outcome: Low priority

Poorly Characterized Sources



-
- | | | |
|----------------------------|---------------------------------|-----------------------------------|
| ❑ Secondary metal smelting | ❑ Residential wood burning | ❑ Rural soil erosion |
| ❑ Coke production | ❑ Crematoria | ❑ Urban runoff |
| ❑ Ceramic manufacturing | ❑ Forest fires | ❑ Utility poles and storage yards |
| ❑ Foundries | ❑ Brush fires | |
| ❑ Asphalt mixing | ❑ Range fires | ❑ Landfill fugitive emissions |
| ❑ Petroleum refineries | ❑ Agricultural burning | ❑ Transformer storage yards |
| ❑ Boilers (ind/res/agric) | ❑ Landfill Fires | ❑ Contaminated sites |
| ❑ Textile effluents | ❑ Structural fires | |
| | ❑ Ash Disposal | |
| | ❑ Copper wire recycling/burning | |

Options for Non-Inventoried Sources of Interest

- ❑ Workgroup review list of sources and prepare discussion papers on dioxin/furan release from the sources
- ❑ Conduct the above jointly with BaP/HCB workgroup
- ❑ Leave them for US EPA and EC to review